Integration Checklist for Migration Assessment

INTRODUCTION

Thank you for participating in this data collection effort. The purpose of this survey is to identify the general strengths and weaknesses of an application for migration consideration by collecting data about all legacy applications reported by functional managers within their respective activities. This data will be entered into the Defense Integration Support Tool (DIST) to support the Center for Integration and Interoperability (CFI&I) technical migration planning efforts, including the development of Integration Plans and Integration Decision Papers.

This survey employs a high-level assessment methodology, based largely on the Technical Architecture Framework for Information Management (TAFIM).

GENERAL INSTRUCTIONS

Use this survey to provide data for a single application. Please circle the appropriate response to each question and answer each question from the perspective of your existing software application. If your software application is considered part of another system, please answer all questions from the perspective of the part of the general application you support.

Please answer all of the questions. In those instances where additional space has been provided, please provide the requested detailed information.

This survey contains the Integration Checklist and instructions for each question.
Please be sure to complete identifying information on the next page.
Please mail or fax this completed survey within two weeks to:

Center for Integration and Interoperability (CFI&I)
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5201 Leesburg Pike, Suite 1501
Falls Church, VA 22041-3201 Fax No: (703) 756-5881

If you have further questions, please call:

Migration Assessment Help Desk (703) 521-5300

IDENTIFYING INFORMATION

CFI&I may need to obtain additional information or to clarify responses with a follow-up communication. Please provide the following information about the person who has completed this survey and an alternate contact in the event that follow-up communication is required.

Respondent's Name _____
(Enter the name of the person who completed the survey)

Today's Date _____

Respondent's Telephone Number_____
(Enter the commercial telephone number of the person who completed the survey)

Respondent's Fax Number_____
(Enter the fax number of the person who completed the survey)

Organization Name
_____
(Enter the official name of the organization for whom the respondent works)

Alternate Contact Name & Telephone Number
_____
(Enter the name and telephone number of a person to contact in the event that the respondent is unavailable for further follow-up communication regarding this survey)

Application Name and Description
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(Enter the full descriptive name of the application (typically the automated information system name), and briefly describe the purpose and use of the application)

IPC Name(s) and Number of Sites_____
(Identify the Information Processing Center(s) (IPC) and total number of sites where the application is resident)

MIGRATION ASSESSMENT CRITERIA

The Integration Checklist was designed to facilitate the selection of migration systems and to ensure the objectivity of the selection process. Because it employs a set of functional domain-independent evaluation criteria, it ensures a Departmental-wide uniformity and objectivity in the migration selection process. Assessment criteria also reflect the information infrastructure goals envisaged in the Technical Architecture Framework for Information Management.

The questions in this checklist address the data, application, and infrastructure components of each legacy system. Each of these areas is further analyzed from four separate perspectives or views: operational functionality, technical, data-handling, and programmatic. This allows for an evaluation of 12 distinct facets of each legacy system.

Migration Assessment Criteria Definitions

Data: Questions related to the management and manipulation of data.

Application: Questions related to the behavior and structure of the application. An application is a set of programs which are taken together as one element for evaluation.

Infrastructure: Questions related to the hardware platform, communications networks, operating systems, service software, and support environment on which the application runs.

System: The Data, Application, and Infrastructure taken together.

Operational Functionality: The Operational Functionality questions are based on a determination of the system's current operational status, the manner in which data is defined and validated within the system, and the system's design.

Technical: The Technical questions are based on a review of the installed technology base and an assessment of the system's ability to serve as the basis for migration to compliance with the technical standards in the TAFIM.

Data Handling: The Data Handling questions are based on the manner in which the system being evaluated handles data as an independent resource. This evaluation is performed in conjunction with the technical assessment.

Programmatic: The Programmatic questions are based on an assessment of the effort required to deploy the system being evaluated as the migration system, including the impact on contractual issues and personnel.

12 Migration Cell Definitions

Operational Functionality/Data: This cell focuses on the system's ability to share data, whether the data is standardized or not, the level at which data is managed for this system, and how data quality is ensured.

Operational Functionality/Application: This cell focuses on the system's current operational status, its ability to support work in other functional areas or activities, its usability, and any specific functional requirements defined by the functional community which must be addressed.

Operational Functionality/Infrastructure: This cell focuses on the system's level of functional integration, the computing model supporting the system, its training requirements, and the specific TAFIM services it supports.

Technical/Data: This cell focuses on technical aspects of the implementation of data in the system being evaluated. In particular, this section looks at how data integrity in ensured, the types of data management and utility services used, and the type of database implementation supporting the system.

Technical/Application: This cell focuses on the status of the system being evaluated. In particular, this section looks at the system's technical base, security issues, and maintenance and reliability issues.

Technical/Infrastructure: This cell focuses on the network, security, management and communications services supported by the system's infrastructure.

Data Handling/Data: There are no specific questions associated with this cell in the current version of the Integration Checklist.

Data Handling/Application: This cell focuses on the manner in which data is manipulated within the system and how it is accessed and input.

Data Handling/Infrastructure: This cell focuses on what types of data handling services are supported by the infrastructure.

Programmatic/Data: There are no specific questions associated with this cell in the current version of the Integration Checklist.

Programmatic/Application: This cell focuses on life cycle management issues, configuration management issues, contractual issues, and both life cycle and technical documentation associated with the system.

Programmatic/Infrastructure: This cell focuses on the manner in which technology upgrades are incorporated into the system's life cycle.

Integration Checklist for Migration Assessment
DATA

I. Operational Functionality Questions

1. Describe the formal data model supporting this application, i.e., logical.

[ ] a: A formal data model that also supports data structures used by applications in other Functional Areas.
[ ] b: A formal data model that supports data structures used by applications in other Functional Activities within this Functional Area.
[ ] c: A formal data model that supports data structures used by other applications within this Functional Activity only.
[ ] d: A formal data model that supports the data structures of this application only.
[ ] e: An informal data model.
[ ] f: No data model supports the data structures used by this application.
[ ] g: Other. (Explain)

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Instructions:
Formal Data Model. A formal data model depicts an organization's object and the relationships that exist between those objects. It also reflects the business rules of the organization. At its lowest level of detail, it depicts the types of data maintained for each object. Check the option which most closely decribes this application's data model or provide an explanation if none of the options apply.

2. Describe how the data elements used by this application were developed or updated.

[ ] a: In accordance with DoD 8320.1-M-1 (Data Element Standardization Procedures).
[ ] b: In accordance with DoD Instruction 5000.11
[ ] c: In accordance with service or component data element standard and procedures.
[ ] d: In accordance with system or information processing data element standards and procedures.
[ ] e: No standard.
[ ] g: Other. (Explain)

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Instructions:
Data Elements. A data element is "a basic unit of information having a meaning and subcategories (data items) of distinct units and values." Check the option which most closely resembles how the data elements used by this application were developed or provide an explanation if none of the options apply.

3. Is the data managed as a:

[ ] a: DoD-wide data base
[ ] b: Component-wide data base
[ ] c: Major Command/Claimants
[ ] d: Local unique data base
[ ] e: Other. (Explain)

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Instructions:
Data Management. A good indication for answering this question is the extent of coordination & approval required before changed are made to data structures or data validation and editing rules.

4. Is information on the data elements (e.g., definition, format, valid values, ownership) stored in a data dictionary? If so, at what level is the dictionary managed?

[ ] a: Yes, system or application level
[ ] b: Yes, processing center level
[ ] c: Yes, component level
[ ] d: Yes, functional area level
[ ] e: Yes, DoD level
[ ] f: No, Data is not stored in a data dictionary

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Instructions:
Data Dictionary Management. This question is asking for the highest organizational level maintaining a data dictionary that is actively used by the development or maintenance team. If a local dictionary is used and consistency is maintained with a higher level data dictionary, then respond with the higher organizational level.

5. To what extent are quality standards enforced?

[ ] a: Data quality standards are well defined and formally documented.
[ ] b: Data values are regularly monitored and exceptions are reported.
[ ] c: There is an ongoing program of data quality maintenance or improvement.
[ ] d: Both a. & b.
[ ] e: Both b. & c.
[ ] f: Both a. & c.
[ ] g: Data quality is well-specified and enforced: Answers a., b., and c. apply.
[ ] h: No Data Quality Program
[ ] i: Other. (Explain)

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Instructions:
Quality Standards Enforcement. Answer "A" indicated that data ownership or stewardship is clearly assigned and that a data dictionary or formal documentaion are actively maintained to reflect current data validation & editing rules.

Answer "B" indicates that exception reports are regularly generated; that exceptions are reviewed; and that remedial actions are assigned & carried out.

Answer "C" indicated that the efficacy of the exception reporting & remediation process is regularly reviewed.

II. Technical Questions

1. Where is data quality checked by the application?

[ ] a: Entirely in the database management system
[ ] b: Entirely in applications programs.
[ ] c: Primarily in the database management system.
[ ] d: There are no data quality criteria.
[ ] e: Other
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Instructions:
Proximity of Quality Checking to Data Entry. This item is asking for where the rules for validating & editing the data are contained.

2. Indicate which of the following data management features are captured by the application/DBMS.

[ ] a: Response time
[ ] b: Data Integrity
[ ] c: Security
[ ] d: Utilization Statistics
[ ] e: Throughput
[ ] f: Delay
[ ] g: All of the above
[ ] h: Three to five of items a-f.
[ ] i: None of the above.
[ ] j: Other. (Explain)
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Instructions:
Automated Data Management. Data Management tasks can be performed better & faster with automated support in a wide range of areas such as those listed here. Generally the automation is supplied by a DBMS, but customized applications or systems software can provide these automation features as well.

3. Indicate which of the following Database Utility services are supported by the system's infrastructure:

[ ] a: Query Processing services
[ ] b: Screen Generation services
[ ] c: Report Generation services
[ ] d: Teleprocessing Monitor services
[ ] e: All of the above
[ ] f: Three of the above
[ ] g: Two of the above
[ ] h: Any of the above services
[ ] i: None of the above
[ ] j: Other. (Explain)

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Instructions:
Database Utilities. See prior explanation. "System infrastructure" can include such tools as the DBMS, programming support tools, utilities or system software.

4. To what extent does the data dictionary/directory system allow data administrators and information engineers to access and modify data about data (i.e., metadata)?

[ ] a: Fully
[ ] b: Partially
[ ] c: Not at all
[ ] d: Other

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Instructions:
Dictionary Availibility. This question is looking at the availability of the data dictionary for those who use it regularly.

5. When a user enters data using this application, are all files or databases associated with other applications that use this data updated automatically?

[ ] a: Yes
[ ] b: Partially. Propagation to some files or databases requires manual intervention.
[ ] c: No, there are no automatic mechanisms for propagating changes in data values to other databases.

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Instructions:
Update Propagation. Circle YES, if, when data under control of this application is updated, transactions, are invoked which provided for the update of databases that are not directly under control of this application.

III. Data Handling

A. Data Recovery

1. Is there a documented Continuity of Operations Plan?

[ ] a: Yes [ ] b: No

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Instructions:
Continuity of Operations. A Continuity of Operations Plan is a plan that provides for minimal disruption of application operations in event of physical disaster at operational sites.

2. Describe the application's data recovery capabilities in event of a system failure.

[ ] a: Recovery procedures are substantially automated and loss of data would be negligible.
[ ] b: Recovery procedures are substantially automated, but loss of data could be substantial.
[ ] c: Recovery procedures are substantially manual, but loss of data would be negligible.
[ ] d: Recovery procedures are substantially manual, but loss of data could be substantial.

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Instructions:
Recovery Capabilities. Base your answer of the degree of automated support for recovery and or the amount of transactions likely to be lost in the event of system failure.

IV. Programmatic Questions

Programmatic points will be given for data modeling and data standardization. The programmatic scores will be based on questions I.A.1 and I.A.2.

Integration Checklist for Migration Assessment
APPLICATION

I. Operational Functionality Questions

1. Describe this application s operational status. Indicate the best response.

[ ] a: Currently in use by multiple DoD agencies/services performing this function.
[ ] b: Currently in use as a standard system within service/agency.
[ ] c: Currently in use as a command unique system.
[ ] d: Completed Initial Operating Capability (IOC) certification or formal acceptance testing.
[ ] e: Scheduled to be in operational or production environment within one year.
[ ] f: Will not be operational within one year.
[ ] g: Other. (Explain)

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Instructions:
Operational System. This question addresses the operational status of the application being evaluated. In particular, this question determines whether an application is still in the design stage, in prototype, or whether it had completed its Initial Operating Capabilities (IOC) test. If an application is past IOC, this question then check to see whether it is in use in a single functional activity, and entire functional area, or DoD-Wide.

2. Describe the use of data generated by this application by individuals or AIS s in other functional areas or activities. (See Attachment A for a list of Functional Areas and Activities.)

[ ] a: Data generated by this application is currently being accessed interactively by automated systems of other functional areas and activities.
[ ] b: No data generated by this application is needed by other functional areas and activities.
[ ] c: Data generated by this application is currently being accessed electronically through batch bulk transfer of data.
[ ] d: Data generated by this application is currently being accessed through batch bulk transfer of data via tape or other physically transported medium.
[ ] e: Data generated by this application is currently being accessed through visual inspection of data via remote terminals.
[ ] f: Data generated by this application is currently being accessed through printed reports or verbal queries.
[ ] g: Other. (Explain)

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Instructions:
Cross-Functional Output. This question is concerned with the use of data generated by this application by individuals or applications for a task not part of this Functional Activity. If the original source of the data is external to this application but this application provides it as output, it also applies to this question.

3. Describe the use by this application of data generated by other functional areas or activities. (See Attachment A for a list of Functional Areas and Activities.)

[ ] a: This application currently accesses data generated in other functional activities or areas interactively as it is required.
[ ] b: No data from other functional activities is required by this application.
[ ] c: This application receives data generated by other functional areas or activities through batch bulk transfer of data electronically.
[ ] d: This application receives data generated by other functional areas or activities through batch bulk transfer of data via tape or other physically transported medium.
[ ] e: Individuals currently access data from other functional areas or activities through visual inspection of data via remote terminals.
[ ] f: Individuals currently access data from other functional areas or activities through printed reports or verbal queries.
[ ] g: Other. (Explain)

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Instructions:
Cross-Functional Input. This question is concerned with the sources of data which are not from individuals or applications within this Functional Activity.

4. Does this application meet its current user response time requirement?

[ ] a: Always
[ ] b: Almost Always
[ ] c: Usually

[ ] d: Sometimes
[ ] e: Almost Never
[ ] f: Other (Explain)

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Instructions:
Operational Requirements. These questions are specific to each Functional Activity. They are specified by the Technical Integration Manager or individual performing the analysis. Specific instructions will be provided by the person who designed the questions.

5. Is data required to be entered only once?

[ ] a: Yes
[ ] b: Almost always.
[ ] c: No
[ ] d: Other. (Explain)

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Instructions:
Single Data Entry. This questions asks if there are mechanisms to reduce to an absolute minimum the data entry requirement. During one user session, relevant data from a new input screen should be brought forward from previous screens or retrieved from a database.

6. Is all of the information that the user needs to perform the supported function provided by the application?

[ ] a: Yes, no other automated systems or information sources are required.
[ ] b: Almost all. Infrequently the user must access other automated systems or information sources to complete a function which is supported by the application.
[ ] c: No
[ ] d: Other. (Explain)

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Instructions:
User Information: This question identifies whether or not the user is required to use multiple automated systems to perform the function supported by this application. Ideally the application should have automated interfaces to all information relevant to the supported function and present this information to the user in a consolidated way.

The user should not have to enter data into or retrieve data from more than one system related to one task.

7. Describe the "ease of use" of this application. This includes the use of standardized user interfaces, on-line help, quality user manuals, easy procedures for recovering from mistakes or processing failures, etc.

[ ] a: Extremely easy for all functional users.
[ ] b: Fairly easy for most functional users.
[ ] c: Easy after you get used to it; several weeks of experience and/or training is required.
[ ] d: Easy for only simple and routine operations. Everything else requires an expert.
[ ] e: Somewhat difficult; requires an expert for many things.
[ ] f: Other.

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Instructions:
Ease of Use: This question is intended to measure the application's ease of use, not the difficulty of the functional process that is supports.

8. Describe the training requirement for the effective use of this application by a functional user. Do not consider training for the functional process. Consider only training for the use of this application.

[ ] a: Can be effectively used almost immediately by a functional user without training specifically for this application.
[ ] b: Can be effectively used by a functional user after one day of training.
[ ] c: Simple operations can be performed by a user after one day of trainng. Experts must operate the non-routine functions.
[ ] d: Requires more than a day but less than five days training for functional user.
[ ] e: Requires more than five days training for functional users.
[ ] f: N/A because this application is not yet opertional.
[ ] g: Other. (Explain)

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Instructions:
Training Requirement: This question is intended to measure the application's ease of use, not the difficulty of the functional process that is supports.

II. Technical Questions

1. Does this application have an explicity defined and documented architecture?

[ ] a: Yes
[ ] b: No

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Instructions:
Documented Architecture: Indicate if there is a documented architecture for this application.

2. How old is the application s design?

[ ] a: 2 or fewer years
[ ] b: 3 to 5 years
[ ] c: 6 or more years
[ ] d: Other. (Explain)

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Instructions:
Application Age. Use the year that actual coding began.

3. When was the last major revision of this application? A major revision would include restructuring more than 20% of the data structure, moving from a file structure to a relational database, or adding functionality to the application significant enough to rename the application or increment the version number. If the application has never been revised, how many years has it been since the application became operational?

[ ] a: 2 or fewer years
[ ] b: 3 to 5 years
[ ] c: 6 or more years
[ ] d: N/A because this application is not yet operational.
[ ] e: Other. (Explain)

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Instructions:
Last Revision Age. This question identifies the date of the last major revision to the application software. This determines the age of the application.

4. How modular is the software for this application? Select the best answer.

[ ] a: Ada Packages.
[ ] b: Object-Oriented organization such as in C++ with encapsulation and data hiding
[ ] c: Extensive use of calls to 4GL COTS routines such as spreadsheets and report generators.
[ ] d: Most of the tasks are performed by calls to relatively-small, separately-compiled routines.
[ ] e: Extensive use of software libraries such as C library routines or COBOL copy members.
[ ] f: Modularity comes from the organization of procedure or function definitions within the functional programming language.
[ ] g: Little or no modularity.
[ ] h: Other. (Explain)

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Instructions:
Modularity. What mechanisms are used in the code to provide modules which perform an indentifiable subtask.

5. How portable is the application?

[ ] a: The application has been ported to 3 or more different vendor platforms which are normally not compatible.
[ ] b: The application has been ported to 2 vendor platforms which are normally not compatible.
[ ] c: The application has not been ported to other platforms as above, but it could be with less than 2 man months effort using known procedures or reasonably available conversion software.
[ ] d: The application cannot be easily ported to another vendor platform.
[ ] e: Other. (Explain)

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Instructions:
Portability. "Compatible" platforms are those in which the same software can be run with the same external behavior. Do not consider performance issues.

6. How scalable is the application? On how many of the three major types of computer systems (minicomputers/workstations, and microcomputers) is the main portion of this application currently capable of operating. (This question may not apply to all functional areas.)

[ ] a: 3
[ ] b: 2
[ ] c: 1
[ ] d: Other. (Explain)

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Instructions:
Scalability. Some of the application being evaluated will have multiple components which may run on different platforms. This questions only referes to the primary routine. It can be identified by the system with access to the most data, or the one that runs at the headquarters, or the one that is the most critical to the system functions. Do not consider performance or capacity issues which could be eliminated obtaining a better commercially available machine.

7. What is the primary programming language of this application?

[ ] a: Ada
[ ] b: Cobol 89 or 95,
Version_____
[ ] c: Cobol (version older than 89) Version

[ ] d: C or C++Version

[ ] e: 4GL, Specify Product &
Version_____
[ ] f: Code Generated CASE Tool_____
[ ] g: COTS Software Package_____
[ ] h: Database Query Language, Specify_____
[ ] i: Assembly Language, Version_____
[ ] j: Fortran, Lisp, Prolog, Basic, Pascal, Clips,Specify
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[ ] k: Other. (Explain)
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Instructions:
Programming Language. The primary programming language is the one that the majority of the code is written in. Do not consider screen drivers, menu generators, or DBMS's. If two languages are approximately equal, select the first one attached on the list.

8. Is this application based on a client-server design? Select the best answer.

[ ] a: Yes. This application (client) uses the services of a database program (server) for most data storage and retrieval.
[ ] b: Yes, a client or server with other applications. Yes. This application exchanges data between other applications (other than database servers) interactively as part of a client-server relationship.
[ ] c: Yes, it contains internal clients and servers. Yes. This application has independent modules or subsystems which interact with each other in a client-server relationship. These client-server sub-systems may run on different platforms and they are not commercial database management systems.
[ ] d: No.
[ ] e: Other. (Explain)
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Instructions:
Client-Server. This questions identifies whetther the application is implemented using a client-server based model.

9. What is the operating system on the primary or most common platform where the application is hosted. For this question, the primary platform refers to the host where the largest processing workload is serviced. If all environments are relatively equal then respond with the first accurate response. List the operating systems used in all environments

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[ ] a: POSIX UNIX
[ ] b: DOS, Windows-NT, OS2
[ ] c: Non-POSIX UNIX, Sun OS
[ ] d: IBM OS 370 Series, MVS, VM, VMS
[ ] e: AOS/VS, Apple OS, MacIntosh OS
[ ] f: Other. (Specify

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Instructions:
OSE Operating System. This question determines whether the operating system supporting the application is OSE compliant. In particular, this question is looking for POSIX and GOSIP compliance in the operating system.

10. Describe the security environment of this application with respect to unclassified but sensitive (privacy) data.

[ ] a: No sensitive data is used by this application.
[ ] b: The application provides support for control of sensitive data.
[ ] c: The application does not control access to specific types of sensitive data. All control is performed off-line by the users of the application through procedures such as document control and limiting access to this application.
[ ] d: Other. (Explain)

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Instructions:
Sensitive Data Security. Data may be sensitive for many reasons (e.g., privacy act, procurement actions, political).

11. Describe the security environment internal to this application with respect to classified data.

[ ] a: No classified data is required by the function which is supported by this application.
[ ] b: Classified data is processed off-line (outside of this application) by the functional users of this application.
[ ] c: This application was designed to process different levels of classified data if it is hosted within the proper security environment.
[ ] d: This application can process classified data but it is totally dependent upon the external security environment for management of classified data. The application does not distinguish between users at different levels of classification.
[ ] e: Other. (Explain

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Instructions:
Application Security Environment. This question is directed at the security requirement associated with the function supported by this application and what support the application gives to the requirement.

12. Describe the access controls which are internal to this application.

[ ] a: Access to this application is handled externally and all users have the same privileges.
[ ] b: Access to this application is handled internal to the application and all users have the same privileges.
[ ] c: Multiple types of access to the application are granted to allow only the privileges which are required for an individual with a specific role.
[ ] d: Other. (Explain)

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Instructions:
Application Access Controls. This question asks if the application treats all users the same or distinguishes between those with different privileges. Application with internal multi-level security mechanisms obviously meet option "C" but so do applications which grant
authority for certain types of transactions to a subset of its users.

13. Describe the audit trail environment of this application.

[ ] a: The application logs all significant activity giving the ability to trace any action to the individual who initiated it.
[ ] b: The environment in which this application runs logs all significant activity giving the ability to trace any action to the individual who initiated it.
[ ] c: There is no ability to trace all significant actions to the individual who initiated them.
[ ] d: N/A because there are no actions that an individual could initiate from this application which would be of interest to trace to an individual.
[ ] e: Other. (Explain)

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Instructions:
Audit Trail. This question identifies the extent to which the application generates audit trails of transactions and user activities.

14. During the last 12 months, how long has it taken, on average, to service requests for new or modified functional capabilities?

[ ] a: 2 or fewer months
[ ] b: 3 to 5 months
[ ] c: 6 to 12 months
[ ] d: Longer than 12 months
[ ] e: N/A not operational for 12 months. Not applicable because this application has not been operational for 12 months.

[ ] f: Other

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Intructions:
Different Versions. Compatible platforms are those on which the same applications will operate with the same behavior (other than performance). This question asks if there are reasons for maintaining different versions of this application other than compatibility with the host platforms. Multiple versions are sometimes maintained for functional reasons to accomodate different user requirements.

15. During the last 12 months, how long has it taken, on average, to service requests for problem fixes?

[ ] a: less than 1 week
[ ] b: 2 to 3 weeks
[ ] c: 2 months
[ ] d: longer than 3 months
[ ] e: N/A because this application has not been operational for 12 months.
[ ] f: Other. (Explain)

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Instructions:
Last Revision Age. This question identifies the date of the last major revision to the application software. This determines the age of the application.

16. During the last 12 months how long has it taken, on average, to correct defects in the latest release of the application?

[ ] a: less than 1 week
[ ] b: 2 to 3 weeks
[ ] c: 2 months
[ ] d: longer than 3 months
[ ] e: N/A because this application has not been operational for 12 months.
[ ] f: Other. (Explain)

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Instructions:
Defect Correction Timeliness. The problems in this question refer to identified defects in the code which affect the functional user's ability to use this application for its intended purpose. If a suitable "Work-around" is found that does not affect the application's usability, then the defect can be considered to be corrected. Consider all problems identified or fixed during the last 12 months. Project a completion date for

those errors not yet corrected. Use a true average (i.e. sum the total time and divide by the number of defects.)

17. During the last 12 months, how many defects have been identified? A defect is a failure to satisfy a requirement, explicitly specified for the latest release, which directly affects the functional user s ability to use this application for its intended purpose.

[ ] a: 4 or less
[ ] b: 5 to 12
[ ] c: 13 to 24
[ ] d: 25 to 36
[ ] e: more than 36
[ ] f: Other. (Explain)

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Instructions:
Defect Frequency. This questionnaire is oriented for and evaluation of an application. In many cases there will be separately identifiable programs within this application. Consider all defects related to the application without consideration of size of the application or the number of programs.

18. Are different versions of this application in use on compatible platforms?

[ ] a: Yes
[ ] b: No
[ ] c: N/A because this application is not yet operational.
[ ] d: Other. (Explain)

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Intructions:
Different Versions. Compatible platforms are those on which the same applications will operate with the same behavior (other than performance). This question asks if there are reasons for maintaining different versions of this application other than compatibility with the host platforms. Multiple versions are sometimes maintained for functional reasons to accomodate different user requirements.

19. How many people (including contractors) spend 1/3 or more of their time supporting the maintenance of software for this application? Count supervisors only if they write or test code.

[ ] a: The application is operational but does not require dedicated support due to infrequent problems.
[ ] b: The application is operational but is no longer being maintained. Explain

_____
_____

[ ] c: 1 to 25

[ ] d: 26 to 75
[ ] e: 76 to 100
[ ] f: 101-200
[ ] g: 201-300
[ ] h: 301-400
[ ] i: 401-more
[ ] j: Other. (Explain)

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Instructions:
Software Support Requirements. This question is asking the magnitude of the effort required to maintain the software. If the application is not yet opeational, estimate the number of people which will be required to maintain it for the first year after fielding.

20. Describe the training environment provided for use of this application. Do not consider training for the functional process. Consider only training for the use of this application.

[ ] a: Complete automated tutorials are available on-line which can be accessed from the same location where the user normally works.
[ ] b: Complete automated tutorials are available but must be made available to the user work area by training or computer operations personnel.
[ ] c: Training is provided by a combination of automated tutorials and instructor training. The instructors are provided by DoD or Service personnel.
[ ] d: Training is provided on a contract basis but no automated tutorials are available.
[ ] e: No comprehensive training exists for this application.
[ ] f: Other. (Explain)

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Instructions:
Training Support. This question identifies the level of support a typical user (see above) requires in using the application after having completed all required training.

III. Data Handling

1. Describe the dominant data environment for this application. Do not consider data which exists only while the application is active or non-functionally related data such as that used to save the status of a display screen while the application is inactive. If flat files are read and used to create other file types by the application, then the dominant environment is "flat files".

[ ] a: Relational Database Management System
[ ] b: Non-relational Database Management System
[ ] c: Indexed files.
[ ] d. Flat files.
[ ] e: Other. (Explain)

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Instructions:
Data Storage Environment. This question identifies the application. In particular, this question is used to determine whether or not a relational database is used in supporting the application.

2. Describe the data retrieval environment of this application.

[ ] a: A DBMS which supports Structured Query Language (SQL) or extension of SQL.
[ ] b: An SQL-like interface which allows ad-hoc queries.
[ ] c: A report generator or other 4GL which allows a typical one-page report to be developed in 10 minutes or less.
[ ] d: A tool which requires more than 10 minutes to develop a report or a language which must be compiled before running the report.
[ ] e: N/A because no reports or queries are required by this application.
[ ] f: Other. (Explain)

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Instructions:
Data Retrieval Environment. This question identifies whether SQL supports data retrieval in support of the application. In the event SQL is not supported, the specific type of data retrieval mechanism is identified.

3. Describe the data dictionary used by this application (if yes from Data-2).

[ ] a: COTS (Commercial) active data dictionary.
[ ] b: Non-commercial active data dictionary.
[ ] c: COTS passive data dictionary.
[ ] d: Non-commercial passive data dictionary.
[ ] e: This application does not use a data dictionary.
[ ] f: Other. (Explain)

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Instructions:
Data Dictionary. This question identifies the type of data dictionary supporting the application and whether the data dictionary is an active one. In the event that a non-active data dictionary is being used, the specific one is identified.

4. What is the primary means that this application receives data from other automated applications?

[ ] a: N/A because no input data comes from other automated systems.
[ ] b: It is retrieved from a common-use DBMS.
[ ] c: Access to messages, files, or other means which are accessible to the application without requiring transportation of a storage medium or intervention of an operator.
[ ] d: It uses tapes, disks, or other medium which must be transported and/or mounted by an operator.
[ ] e: It requires translation of formats, editing, manual data entry, data analysis, summary, or other human intervention to prepare the data from another automated system to prepare it for input into this application.
[ ] f: Other. (Explain)

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Instructions:
Input Interface Means. This question identifies the technical sophistication of the interface mechanism from other automated systems or information sources and this application. The primary means is the means in which the largest amount of data is transferred. Option E is applicable when the data must be processed in some way after it comes from the automated system and before it can be used as input. If transaction amounts from another application are totaled and then keyed into this application then the input data comes from another system and Option E applies.

5. What is the primary means that data from this application is transferred from other automated systems?

[ ] a: N/A because no output data is read by other applications.
[ ] b: It is retrieved from a common-use DBMS.
[ ] c: Access to messages, files, or other means which are accessible to other applications without requiring transportation of a storage medium or intervention of an operator..
[ ] d: It uses tapes, disks, or other medium which must be transported and/or mounted by an operator..
[ ] e: It requires translation of formats, editing, manual data entry, data analysis, summary, or other human intervention to prepare the data from this application to prepare it for input into another application..
[ ] f: Other. (Explain)

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Instructions:
Output Interface Means. Output data is considered any data which is written by this application and read by another automated system. It also applies to reports which are used by users of another application. This question identifies the technical sophistication of the interface mechanism from this application to other automated systems or information sources. The primary means is the means in which the largest amount of data is transferred. Option E is applicable when the data must be processed in some way after it is produced by this application and before it can be used by other automated systems. If transaction amounts from this application are totaled and then keyed into another application then the output data comes from this application and Option E applies.

6. Is newly entered data validated prior to updating the associated database?

[ ] a: Yes
[ ] b: Partially. (Explain)_____
[ ] c: No
[ ] d: Other. (Explain)
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Instructions:
Data Validations. Validations refers to edits for data format and cross checking against look-up tables, dictionaries, catalogs, etc. to allow identification of errors during the data entry process.

7. Describe the data processing environment with respect to the timing of database updates and initial data entry.

[ ] a: Interactive with all completed transactions available to all users.
[ ] b: Locally interactive with all completed transactions available only to local users until the periodic update of all data to all users.
[ ] c: Batch processing with transactions affecting the on-line data only after a processing job has been run.
[ ] d: Other. (Explain)
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Instructions:
Data Currency. This question identifies the manner in which the application's database is updated. In particular, this question determines whether the databases updated using on-line transactions or some form of periodic, batch updating.

IV. Programmatic Questions

A. Life Cycle Issues

1. Describe the life cycle management plan (LCMP) for this application.

[ ] a: LCMP is in accordance with DoD 8120 and 7920 series of documents.
[ ] b: LCMP follows a service regulation. Specify the regulation and justification for noncompliance with DoD standards

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[ ] c: No LCMP exists.
[ ] d: Other. (Explain)

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Instructions:
Life Cycle Management. This question identifies the type of life cycle management plan (LCMP) supporting this application.

2. Describe the funding status of this application.

[ ] a: There is a separate Exhibit 43 for this applicationb as part of the PPBS process for information technology.
[ ] b: Operation and maintenance of this application has been funded by a service as an internal part of an organization's budget.
[ ] c: Funding for this application has been requested but not yet approved.
[ ] d: Funding for this application has not been requested or it has been disapproved.
[ ] e: Other. (Explain)

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Instructions:
Funding Status. This question identifies the funding status of the application.

3. Identify potential restrictions for expanded government use of this application. Select the one answer which best describes any restrictions.

[ ] a: There are no license fees or restrictions.
[ ] b: The license fees will not change if use of this application is expanded.
[ ] c: There are license fees for essential supporting components which will increase if more users were added to this application.
[ ] d: There are license fees for essential supporting components which would increase if additional copies of this application were distributed to other similar host platforms.
[ ] e: There are license fees for essential supporting components which would increase if this application were hosted on a platform other than the type on which is now running.
[ ] f: There are other restrictions which will likely prohibit expanded government use. (Explain)

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[ ] g: Other. (Explain)

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Instructions:
Expansion Restrictions. There may be multiple correct responses to this question. In that case, select the most significant restriction if the application is selected as a migration system.

4. Are there contractual issues associated with this application which would prevent or limit its replacement by another system if it were not selected as part of themigration system for this Functional Activity? (Do not consider host platform issues if the application is hosted on a general purpose machine.)

[ ] a: Yes. (Explain)

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[ ] b: No
[ ] c: Other. (Explain)

Instructions:
Contractual Issues: Do not consider host platform issues if the application is hosted on a general purpose machine.

5. Who is providing the primary support to this application? Choose Contractor if a civilian contractor is performing the work even if a CDA (provides software support) or other activity is monitoring the contract.

[ ] a: Central Design Activity (CDA)
[ ] b: Contractor
[ ] c: Other large programming organization. An organization of 30 or more people with a primary mission to support software but not designated as a CDA. This organization is staffed primarily by information technology professionals.
[ ] d: Supported within the functional organization or by a small programming staff.
[ ] e: Other. (Explain)

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Instructions:
Source of Support. If the application is not yet operational, select the planned support environment. If it is now known, select "Other" and explain.

6. Describe the business process documentation which this application supports. Respond with the first answer that applies.

[ ] a: IDEF0 diagrams of the business process and IDEF1X diagrams of the data as per DoD 8020.M-1.
[ ] b: Other formal description of the business process with an identifiable linkage to the support provided by the application.
[ ] c: A users manual or other functional documentation which describes the

functional process and how the application is used to support the function.
[ ] d: No business process documentation.
[ ] e: Other. (Explain)

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Instructions:
Business Process Documentation. This question identifies whether any business process related documentation has been prepared for this system. In particular, this question determines whether IDEFO or IDEFIX drawings have been prepared for this application.

7. Does the technical documentation of this application conform to standards?

[ ] a: Yes, it is fully documented according to the applicable military standard, e.g. 7935, 2167-A, or 498.
[ ] b: It is fully documented but not completely according to the applicable military standard.
[ ] c: It uses the applicable standard but is at least partly incomplete.
[ ] d: It is partially documented but not in the form specified by the applicable military standard.
[ ] e: There is no formal documentation of the type specified in the military standards.
[ ] f: Other. (Explain)

Instructions:
Technical Documentation.
This question identified the extent to which the applicable military standard was followed in the documentation of the application. Military Standard 7935, for example, pertains to business systems and specifies a format for the following: functional description,
system/subsystem specification, software unit specification (program specification), database specification, test plan, users manual, computer operation manual, maintenance
manual, and implementation procedures.

8. Describe the specification of the functional requirement for this application.

[ ] a: There is a formal specification of requirements for this application in the format specified in Military Standard 7935.
[ ] b: There is a complete specification of requirements for this application in another format. This documentation would allow a person not familiar with this function to generate documentation in the prescribed format. Specify the format used.

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[ ] c: There is no formal functional requirements document but basic functional requirements can be derived from existing documentation such as user s manuals.
[ ] d: There is no documentation of functional requirements.

[ ] e: Other. (Explain)

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Instructions:
Requirements Specification Status. This question determines whether formal requirements documents have been prepared for the application being evaluated.

9. How current is the technical documentation of the application code and data?

[ ] a: There is no significant documentation.
[ ] b: The documentation is currently up to date.
[ ] c: Less than 5% of the documentation is out of date.
[ ] d: Between 6% and 25% of the documentation is out of date.
[ ] e: More than 25% of the documentation is out of date.
[ ] f: Other. (Explain)

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Instructions:
Documentation Currency. This question determines the currency of the existing documentation.

10. Describe the current status of the ecomonic analysis of this application.

[ ] a: A Functional Ecomonic Analysis (FEA) has been performed and approved by the DoD Functional Manager, according to DoD 8020.1-M. (Attach a copy.)
[ ] b: A Cost and Operational Effectiveness Analysis (COEA) has been performed and approved by the appropriate Program Manager.
[ ] c: This application's budget its below the MAISRC review threshold but an economic analysis has been performed according to Service guidelines and approved by a Service authority. (Attach a copy)
[ ] d: An ecomonic analysis has been performed using a format different than those discussed above. (Attach a copy)
[ ] e: No ecomonic analysis has been performed.
[ ] f: Other. (Explain)

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Instructions:
Economic Analysis. This question determines the current status of the economic analysis for this application.

Integration Checklist for Migration Assessment
INFRASTRUCTURE

I. Operational Functionality Questions

1. What level of technical support of functional integration is used by this system (Select the first answer which applies)?

[ ] a: Distributed Processing (e.g., a client-server implementation, distributed database management, shared interfaces with multiple applications or systems, cooperative execution of applications)
[ ] b: Exchange Complex Products (e.g., supports document exchange or multi-media exchange)
[ ] c: Simple Interface Drivers (e.g., terminal emulation with windowing)
[ ] d: Exchange Simple Data (e.g., voice, e-mail, data files)
[ ] e: Data Transport (e.g., physical and logical links, operating systems and network management systems)
[ ] f: Other. (Explain)
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Instructions:
Functional Integration. This question attempts to determine the level of functional integration the system being evaluated will support. In this sense, the level of functional integration which can be supported by a system is tightly coupled to the level of interconnection and interoperability supporting it. In particular, this question is trying to determine whether the system supports the exchange of seamless document interchange or not. Identify the level of functional integration which most closely describes the operations of this system.

2. Indicate the level to which the system's infrastructure supports its current functional requirements.

[ ] a: Fully supports the current mission with current capabilities.
[ ] b: Provides significant support for the current mission although it requires some support from outside capabilities.
[ ] c: Provides some support for the current mission but requires extensive support from outside capabilites.
[ ] d: The system no longer supports the mission for the Functional Activity or Mission Area.
[ ] e: Other. (Explain)
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Instructions:
Level of support to current functional requirements. This questions attempts to determine the level to which the system being accessed supports its current functional requirements. In particular, this question is trying to identify those instances where a mission or function has changed over tme and the infrasture supporting the legacy system no longer supports this mission or function. Identify the appropriate level.

3. Identify the computing design structure supporting this system:

[ ] a: Distributed Object Management Model
[ ] b: Client-Server Based Model
[ ] c: Host-Based Model
[ ] d: Other. (Explain)

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Instructions:
Computing Model. This question attempts to determine the computing model supporting this system. In particular, this question is trying to identify whether the system is implemented using a mainframe or host based model or using some version or a distribued model. A mainframe or host based model is defined as one in which end users initiate transactions or queries directly on a mainframe computer. The distributed model is one in which end users access data on multiple systems, which may include mainframes, minicomputers, and PCs. A client-server based model includes software that acts as either a client, i.e., it issues requests for data or services, or as a server, i.e., it provided services or data in response to requests from clients. Please identify which of the options is appropriate for the system being accessed.

4. Specify the level of support provided to meet the user's training requirements for this system:

[ ] a: Sufficient capacity to support integrated training capabilities, e.g., access to on-line tutorials
[ ] b: Provides access to training capabilities separate from the system, i.e., classroom instruction, or a loadable training module
[ ] c: Some mix of both of the preceding options
[ ] d: Other. (Explain)

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Instructions:
Training Support. This question attempts to determine whether the system being assessed has sufficient capacity in its infrastructure to support the system's training requirements. In particular, the question is trying to determine whether the system's infrastructure is capable of supporting integrated training capabilities, such as providing access to on-line tutorials. Identify the type of training support capacity provided.

5. Identify the consistency of the system's user interface, i..e., the "look and feel",

across various platforms and devices:

[ ] a: Completely consistent user interface across all platforms
[ ] b: Minor changes to the user interface across all platforms
[ ] c: Significant changes to the user interface across each platform
[ ] d: Other. (Explain)

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Instructions:
Consistent Interface. This question attempts to determine whether the system being evaluated maintains a consistent "look and feel" for users across various platforms. In particular, the question attempts to determine whether the "look and feel" is largely consistent across platforms or if it changes dramatically from one platform to another. This is a subjective interpertation driven by the functional requirements of the system's end users. Specify the most appropriate answer.

6. Identify which of the following functional services specified in the TAFIM are supported by this system:

[ ] a: User Interface Services, e.g., windows management, dialog support
[ ] b: Graphics/Multimedia Services, e.g., graphical object management
[ ] c: Programming Services, e.g., languages and bindings
[ ] d: Data Management Services, e.g., data dictionary/directory
[ ] e: Data Interchange Services, e.g., document product data
[ ] f: Network Services Data Communications, PC support
[ ] g: All of the above
[ ] h: Four or five of the services
[ ] i: Two or three of the services
[ ] j: None of these services are supported
[ ] k: Other. (Explain)

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Instructions:
TAFIM Services Supported by the System. This question attempts to determine which of a series of TAFIM defined services are supported by the legacy system being assessed. The question is trying to determine the extent of these support services provided by the legacy system. The question addresses the absence or presence of general capabilities rather than specifics concerning the implementation of any of these services. Specify the appropriate services , or total number of services, provided.

II. Technical Questions

1. Indicate which of the following Network Services are supported by the system's infrastructure (provide the best answer):

[ ] a: TCP/IP
[ ] b: GOSIP
[ ] c: ATM cell
[ ] d: Proprietary protocols
[ ] e: None of the above protocols
[ ] f: Other. (Explain)

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Instructions:
Network Protocols. This question attempts to determine the type of network protocols are supported by the system's infrastructure. In particular, the question is trying to determine whether the infrastructure supports TCP/IP, GOSIP, or ATM protocols, or some combination thereof. Specify the appropriate answer.

2. Specify which of the following security services are supported by the system's infrastructure:

[ ] a: Programming security
[ ] b: User Interface security
[ ] c: Data Management security
[ ] d: Data Interchange security
[ ] e: Graphics security
[ ] f: Network security
[ ] g: Operating Systems security
[ ] h: Distributed Computing security
[ ] i: All of the above
[ ] j: Three or more of the above
[ ] k: Two of the above
[ ] l: None of the above
[ ] m: Other. (Explain)

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Instructions:
Security Services. This question attempts to determine which TAFIM specified security services are supported by the legacy system being assessed. In particular, this question is attempting to determine which and how many of the listed services are currently supported. This question is focused on the absence or presence of general capabilities rather than the implementation of specific support services. Specify either the services supported of the total number supported.
3. Described the security environment where the application is hosted.

[ ] a: Multi-level Secure. Applications in this environment operation in a multi-level security environment.
[ ] b: System High. Two or more classification levels are processed but all data is handled at the highest security level.
[ ] c: Periods Processing. Two or more classification levels are processed but time intervals are dedicated for each level.
[ ] d: Dedicated System. The environment process only one level of classified data.

[ ] e: The activity supported by this application processes unclassified data using this system but processes classified data for similar functions by other means.
[ ] f: No classified data is processed in this environment nor is it processed by the activity which is supported by this application.
[ ] g: Other. (Explain)

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Instructions:
Application Security Environment. This question is directed at the security requirement associated with the function supported by this application and what support the application gives to the requirement.

4. Which of the following systems level management services are provided:

[ ] a: Environment Services, e.g., batch processing, transaction processing
[ ] b: Systems Management Services, e.g., define end user access
[ ] c: Distributed Computing Services, e.g., global time, global data
[ ] d: All of the above
[ ] e: Two of the above
[ ] f: None of the above
[ ] g: Other. (Explain)

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Instructions:
Management Services. This question attempts to determine which TAFIM specified systems level management services are provided in the legacy systems being assessed. In particular, this question is trying to determine the types of management services provided, i.e., environment management services, systems management services, or distributed computing services. Indicate which of these services are currently supported.

5. Indicate which of the following communications services are supported by system's infrastructure:

[ ] a: Personal messaging
[ ] b: Organizational messaging
[ ] c: Enhanced telephony
[ ] d: Shared screen services
[ ] e: Teleconferencing services
[ ] f: Broadcast services
[ ] g: Conferencing services
[ ] h: All of the above
[ ] i: Three or more of the above services
[ ] j: Two of the above
[ ] k: Any of the above services
[ ] l: None of the above
[ ] m: Other. (Explain)

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Instructions:
Communications Services. This question attempts to determine which TAFIM specified communications services are supported byt he legacy system being assessed. In particular, this question is trying to determine how many of these services are supported by the legacy system. This question addresses the availability of general service capabilities rather
than the implementation of specific services. Indicate the correct number of communications services supported.

6. Indicate the reliability measures employed in support of the system's infrastructure:

[ ] a: No backups available
[ ] b: Backup elements
[ ] c: Extended MTBF (Mean Time Between Failure) hardware
[ ] d: Procedures to accomodate outages
[ ] e: Backup elements and extended MTBF hardware
[ ] f: Backup elements, extended MTBF hardware, and procedures to accomodate outrages
[ ] g: Other. (Explain)

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Instructions:
Reliability Measures. This question attempts to determine the measures used to ensure backup capabilities and general reliability in the legacy system being assessed. Please specify the types of backup and reliability measures used to support the legacy system.

III. Data Handling Questions

1. Which of the following data handling services are provided:

[ ] a: Data Management Services, e.g., data dictionary/directory service
[ ] b: Data Interchange Services, e.g., graphics data interchange
[ ] c: Both
[ ] d: Neither
[ ] e: Other.

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Instructions:
Data Handling Services. This question attempts which of the TAFIM specified data handling services are supported by the legacy system. In particular, this question attempts to determine whether data management or data interchange services are supported by the legacy system.

IV. Programmatic Questions

A. Contractual Issues

1. How is the communications infrastructure provided:

[ ] a: Owned by the government
[ ] b: Leased lines
[ ] c: A combination of owned and leased lines
[ ] d: There is no communication requirement. (N/A)
[ ] e: Other. (Explain)

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Instructions:
Communication Provisioning. This question attempts to determine the manner in which infrastructure is provided. In particular, this question is trying to determine whether the communications infrastructure is owned by the government, leased by the government, or some combination thereof. Indicate the appropriate answer.

2. How is the hardware and system software provided?

[ ] a: Owned by the government
[ ] b: Leased
[ ] c: A combination of owned and leased
[ ] d: Other. (Explain)

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Instructions:
Hardware Provisioning. This question attempts to determine the manner in which infrastructure is provided. In particular, this question is trying to determine whether the communications infrastructure is owned by the government, leased by the government, or some combination thereof. Indicate the appropriate answer.

3. How are technology upgrades incorporated into the overall program:

[ ] a: Contract provisions for pre-planned product improvements (P3I)
[ ] b: A technology refreshment provision in the contract
[ ] c: No planned upgrade provisions
[ ] d: Other. (Explain)

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Instructions:
Technology Upgrades. This question attempts to determine what type of contractual provisions exist to support technology upgrades to the system. Specify the appropriate answer.

INSTRUCTIONS for Integration Checklist for Migration Assessment

Instructions for Integration Checklist for Migration Assessment: DATA

I. Functional Questions

A. Data Sharing

1 Formal Data Model. A formal data model depicts an organization's objects and the relationships that exist between those objects. It also reflects the business rules of the organization. At its lowest level of detail, it depicts the types of data maintained for each object. Check the option which most closely describes this application's data model or provide an explanation if none of the options apply.

2. Data Elements. A data element is "a basic unit of information having a meaning and subcategories (data items) of distinct units and values." Check the option which most closely resembles how the data elements used by this application were developed or provide an explanation if none of the options apply.

3. Data Management. A good indication for answering this question is the extent of coordination & approval required before changes are made to data structures or data validation and editing rules.

4. Data Dictionary. Answer "yes" if the application uses a data dictionary.

5. Data Dictionary Management. This question is asking for the highest organizational level maintaining a data dictionary that is actively used by the development or maintenance team. If a local dictionary is used and consistency is maintained with a higher level data dictionary, then respond with the higher organizational level.

B. Data Quality

1. Quality Standards Enforcement. Answer "A" indicates that data ownership or stewardship is clearly assigned and that a data dictionary or formal documentation are actively maintained to reflect current data validation & editing rules.

Answer "B" indicates that exception reports are regularly generated; that exceptions are reviewed; and that remedial actions are assigned & carried out.

Answer "C" indicated that the efficacy of the exception reporting & remediation process is regularly reviewed.

II. Technical Questions

A. Data Integrity

1. Proximity of Quality Checking to Data Entry. This item is asking for where the rules for validating & editing the data are contained.

B. Data Services

1. Automated Data Management. Data management tasks can be performed better & faster with automated support in a wide range of areas such as those listed here. Generally the automation is supplied by a DBMS, but customized applications or systems software can provide these automation features as well.

2. Database Utilities. See prior explanation. "System infrastructure" can include such tools as the DBMS, programming support tools, utilities, or system software.

Query processing: services that provide for interactive selection, extraction, and formatting of stored information from files and databases.

Screen generation: services that provide the capability to define and generate screens which support the retrieval, presentation, and update of data.

Report generation: services that provide the capability to define and generate hardcopy reports comprised of data extracted from a database.

Teleprocessing monitor: services that manage concurrent user access to Database Management System services.

C. Data Dictionary

1. Dictionary Availability. This question is looking at the availability of the data dictionary for those who use it regularly.

D. Data Update

1. Update Propagation. Circle YES if, when data under control of this application is updated, transactions are invoked which provide for the update of databases that are not directly under control of this application.

III. Data Handling Questions

1 Continuity of Operations. A Continuity of Operations Plan is a plan that provides for minimal disruption of application operations in event of physical disaster at operational sites.

2. Recovery Capabilities. Base your answer of the degree of automated support for recovery and or the amount of transactions likely to be lost in the event of system failure.

Instructions for Integration Checklist for Migration Assessment: APPLICATION

I. Functional Questions

A. Operational Status

1. Operational System. This question addresses the operational status of the application being evaluated. In particular, this question determines whether an application is still in the design stage, in prototype, or whether it has completed its Initial Operating Capabilities (IOC) test. If an application is past IOC, this question then check to see whether it is in use in a single functional activity, an entire functional area, or DOD-wide.

B. Cross-Functional Support

1. Cross-Functional Output. This question is concerned with the use of data generated by this application by individuals or applications for a task not part of this Functional Activity. If the original source of the data is external to this application but this application provides it as output, it also applies to this question.

2. Cross-Functional Input. This question is concerned with the sources of data which are not from individuals or applications within this Functional Activity.

C. Functional Activity Operational Requirements

1. Operational Requirements. These questions are specific to each Functional Activity.They are specified by the Technical Integration Manager or individual performing the analysis. Specific instructions will be provided by the person who designed the questions.

D. Usability

1. Training Support. This question identifies the level of support a typical user (see above) requires in using the application after having completed all required training.

II. Technical Questions

A. Technical Base

1. Application Age. Use the year that actual coding began.

2. Last Revision Age. This question identifies the date of the last major revision to the application software. This determines the age of the application.

3. Modularity. What mechanisms are used in the code to provide modules which perform an identifiable sub-task.

4. Portability. "Compatible" platforms are those in which the same software can be run with the same external behavior. Do not consider performance issues.

5. Scalability. Some of the application being evaluated will have multiple components which may run on different platforms. This questions only refers to the primary routine. It can be identified by the system with access to the most data, or the one that runs at the headquarters, or the one that is the most critical to the system functions. Do not consider performance or capacity issues which could be eliminated obtaining a better commercially available machine.

6. Programming Language. The primary programming language is the one that the majority of the code is written in. Do not consider screen drivers, menu generators,or DBMS's. If two languages are approximately equal, select the first one on the list.

7 Code Generation. Indicate the primary means by which program code is created. Do not consider screen drivers, menu generators, or DBMSs. If two sources are approximately equal, select the first one on the list.

8. Client Server. This question identifies whether the application is implemented using a client-server based model.

9. OSE Operating System. This question determines whether the operating system supporting the application is OSE compliant. In particular, this question is looking for Posix and GOSIP compliance in the operating system.

10. Testing. This question determines the emphasis placed on system testing and ascertains the degree of user involvement in system development/changes.

B. Security

1. Sensitive Data Security. Data may be sensitive for many reasons (e.g., privacy act, procurement actions, political).

2. Application Security Environment. This question is directed at the security requirement associated with the function supported by this application and what support the application gives to the requirement.

3. Application Access Controls. This question asks if the application treats all users the same or distinguishes between those with different privileges. Application with internal multi-level security mechanisms obviously meet option "C" but so do applications which grant authority for certain types of transactions to a subset of its users.

4. Audit Trail. This question identifies the extent to which the application generates audit trails of transactions and user activities.

C. Maintenance & Reliability

1. Defect Frequency. This questionnaire is oriented for and evaluation of an application. In many cases there will be many separately identifiable programs within this application. Consider all defects related to the application without consideration of size of the application or the number of programs.

2. Defect Correction Timeliness. The problems in this question refer to identified defects in the code which affect the functional user's ability to use this application for its intended purpose. If a suitable "work-around" is found that does not affect the application's usability, then the defect can be considered to be corrected. The questions is asking how long the user has to wait for a problem to be corrected. Consider all problems identified or fixed during the last 12 months. Project a completion date for those errors not yet corrected. Use a true average (i.e. sum the total time and divide by the number of defects).

3. Different Versions. Compatible platforms are those on which the same applications will operate with the same behavior (other than performance). This question asks if there are reasons for maintaining different versions of this application other than compatibility with the host platforms. Multiple versions are sometimes maintained for functional reasons to accommodate different user requirements.

4. Software Support Requirements. This question is asking the magnitude of the effort required to maintain the software. If the application is not yet operational, estimate the number of people which will be required to maintain it for the first year after fielding.

III . Data Handling Questions

A. Data Manipulation Tools

1. Data Storage Environment. This question identifies the type of DBMS used to support the application. In particular, this question is used to determine whether or not a relational database is used in supporting the application.

2. Data Retrieval Environment. This question identifies whether SQL supports data retrieval in support of the application. In the event SQL is not supported, the specific type of data retrieval mechanism is identified.

3. Data Dictionary. This question identifies the type of data dictionary supporting the application and whether the data dictionary is an active one. In the event that a non-active data dictionary is being used, the specific one is identified.

B. Data Access

1. Data Availability. An application supports a specific function. This question is oriented on the function performed, not the application. It asks if the user is provided all of the information necessary to complete this function by this application. If data is retrieved by automated means within this application, consider the application as the source.

2. Data Input Mechanisms. This question asks the means for getting data which was not generated by this application. Respond with the dominant means (i.e. the means by which the largest amount of data is retrieved).

C. Data Input

1. Single Data Entry. This question asks if there are mechanisms to reduce to an absolute minimum the data entry requirement. During one user session, relevant data from a new input screen should be brought forward from previous screens or retrieved from a database.

2. Data Validations. Validation refers to edits for data format and cross checking against look-up tables, dictionaries, catalogs, etc. to allow identification of errors during the data entry process.

3. Data Currency. This question identifies the manner in which the application's database is updated. In particular, this question determines whether the databases updated using on-line transactions or some form of periodic, batch updating.

IV. Programmatic Questions

A. Life Cycle Issues

1. Life Cycle Management. This question identifies the type of life cycle management pla n (LCMP) supporting this application.

B. Configuration Management

1. Configuration Management. This question determines the emphasis placed on controlling system changes and ascertains the degree of user involment in system development/changes.

C. Contractual Issues

1. Expansion Restrictions. There may be multiple correct responses to this question. In that case, select the most significant restriction if the application is selected as amigration system.

2. Contracts Limiting Replacement. This question identifies whether any specific contractual provisions exist which would prevent the replacement of the application being evaluated in the event another application was selected as the migration system.

3. Source of Support. If the application is not yet operational, select the planned support environment. If it is now known, select "Other" and explain.

D. Documentation

1. Business Process Documentation. This question identifies whether any business process related documentation has been prepared for this system. In particular, this question determines whether IDEFO or IDEFIX drawings have been prepared for the application.

2. Documentation Standards. This question identifies the documentation standard used in developing the software, the data and the documentation supporting the application.

3. Requirements Specification Status. This question determines whether formal requirements documents have been prepared for the application being evaluated.

4. Documentation Currency. This question determines the currency of the existing documentation.

Instructions for Integration Checklist for Migration Assessment: INFRASTRUCTURE

This portion of the Instructions addresses infrastructure questions. For the purposes of the Integration Checklist for Migration Assessment, infrastructure is defined as all parts of the system which support the use of the application software. This includes all hardware platforms used as part of the system (i.e.,mainframes, minicomputers, and personal computers (PCs)), network hardware (both LAN and WAN hardware), operating system software, network operating system software, DASD, telecommunications hubs and switches, etc. The only exception to this concerns the database management system and data management tools used to support the database. Both of these topics are addressed in the data section.

I. Functional Questions

A. Design Considerations

1. Level of Functional Integration. This question attempts to determine the level of functional integration the system being evaluated will support. In this sense, the level of functional integration which can be supported by a system is tightly coupled to the level of interconnection and interoperability supporting it. In particular, this question is trying to determine whether the system supports the exchange of seamless document interchange or not. Identify the level of functional integration which most closely describes the operations of this system.

2. Level of Support to Current Functional Requirements. This question attempts to determine the level to which the system being accessed supports its current functional requirements. In particular, this question is trying to identify those instances where a mission or function has changed over time and the infrastructure supporting the legacy system no longer supports this mission or function. Identify the appropriate level.

B. Processing Model

1. Computing Model. This question attempts to determine the computing model supporting this system. In particular, this question is trying to identify whether the system is implemented using a mainframe or host based model or using some version or a distributed model. A mainframe or host based model is defined as one in which end users initiate transactions or queries directly on a mainframe computer. The distributed model is one in which end users access data on multiple systems, which may include mainframes, minicomputers, and PCs. A client-server based model includes software that acts as either a client, i.e., it issues requests for data or services, or as a server, i.e., it provides services or data in response to requests from clients. Please identify which of the options is appropriate for the system being accessed.

C. Usability

1. Level of Support Provided to Meet Training Requirements. This question attempts to determine whether the system being assessed has sufficient capacity in its infrastructure to support the system's training requirements. In particular, the question is trying to determine whether the system's infrastructure is capable of supporting integrated training capabilities, such as providing access to on-line tutorials. Identify the type of training support capacity provided.

2. Consistency of the 'Look and Feel'. This question attempts to determine whether the system being evaluated maintains a consistent "look and feel" for users across various platforms. In particular, the question attempts to determine whether the "look and feel" is largely consistent across platforms or if it changes dramatically from one platform to another. This is a subjective interpretation driven by the functional requirements of the system's end users. Specify the most appropriate answer.

D. TAFIM Services

1. TAFIM Services Supported by the System. This question attempts to determine which of a series of TAFIM defined services are supported by the legacy system being assessed. The question is trying to determine the extent of these support services provided by the legacy system. The question addresses the absence or presence of general capabilities rather than specifics concerning the implementation of any of these services. Specify the appropriate services, or total number of services, provided.

II. Technical Questions

A. Network Services

1. Network Protocols Supported by the System. This question attempts to determine the type of network protocols are supported by the system's infrastructure. In particular, the question is trying to determine whether the infrastructure supports TCP/IP, GOSIP, or ATM protocols, or some combination thereof. Specify the appropriate answer.

2. WAN Connectivity. This question is designed to determine extent of connectivity towide area network.

B. Security Services

1. Security services supported by the infrastructure. This question attempts to determine which TAFIM specified security services are supported by the legacy system being assessed. In particular, this question is attempting to determine which and how many of the listed services are currently supported. This question is focused on the absence or presence of general capabilities rather than the implementation of specific support services. Specify either the services supported of the total number supported.

2.

C. Management Services

1. Types of Management Services Provided. This question attempts to determine which TAFIM specified systems level management services are provided in the legacy systems being assessed. In particular, this question is trying to determine the types of management services provided, i.e., environment management services, systems management services, or distributed computing services. Indicate which of these services are currently supported.

D. Communications Services

1. Communications Services Supported. This question attempts to determine which TAFIM specified communications services are supported by the legacy system being assessed. In particular, this question is trying to determine how many of these services are supported by the legacy system. This question addresses the availability of general service capabilities rather than the implementation of specific services. Indicate the correct number of communications services supported.

E. Reliability

1. Reliability Measures. This question attempts to determine the measures used to ensure backup capabilities and general reliability in the legacy system being assessed. Please specify the types of backup and reliability measures used to support the legacy system.

III. Data Handling Questions

1. Data Handling Services. This question attempts to determine which of the TAFIM specified data handling services are supported by the legacy system. In particular, this question attempts to determine whether data management or data interchange services are supported by the legacy system.

IV. Programmatic Questions

A. Contractual Issues

1. Technology Upgrades. This question attempts to determine what type of contractual provisions exist to support technology upgrades to the system. Specify the appropriate answer.